



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/051,057 | 01/22/2002 | Henry P. Offer | 1585-305 | 2884 |

7590 02/04/2003

NIXON & VANDERHYE P.C.
8th Floor
1100 North Glebe Road
Arlington, VA 22201-4714

EXAMINER

JOHNSON, JONATHAN J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1725

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/051,057

Applicant(s)

OFFER ET AL.

Examiner

Jonathan Johnson

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 13 and 14 are objected to because of the following informalities: Claim 13, Line 2 states the phrase "such that" twice. The same typographical error occurs in Claim 14, Line 3. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 13, 14, and 16-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Offer (5,688,419). With respect to Claim 1, Offer teaches welding a first metal to the surface of a second metal (Column 11, Line 62) under conditions of low heat input (Column 12, Line 7 and Column 8, Lines 1-2) to achieve reduced thermal sensitization (Column 1, Lines 61-63).

With respect to Claim 13, the teachings of Offer are the same as relied upon in the rejection of Claim 6. Offer teaches the welding is carried out over a period of time such that the

Art Unit: 1725

metal temperature during weld cooling is insufficient to allow carbide formation on grain boundaries (Column 2, Lines 39-50 and Column 8, Lines 17-35)

With respect to Claim 14, the teachings of Offer are the same as relied upon in the rejection of Claim 4. Offer teaches welding is carried out over a period of time in the sensitizing range such that the metal temperature during weld cooling is insufficient to allow carbide formation on grain boundaries (Column 2, Lines 39-50 and Column 8, Lines 17-35)

With respect to Claim 16, Offer teaches welding a first metal to the surface of a second metal (Column 11, Line 62) under conditions of low heat input (Column 12, Line 7 and Column 8, Lines 1-2) to achieve reduced residual stress (Abstract).

With respect to Claim 17, the teachings of Offer are the same as relied upon in the rejection of Claim 13. Offer teaches the first metal is water cooled (Column 2, Lines 28-29).

With respect to Claim 18, the teachings of Offer are the same as relied upon in the rejection of Claim 13. Offer teaches the first metal is air cooled (Column 4, Line 12).

With respect to Claim 19, the teachings of Offer are the same as relied upon in the rejection of Claim 13. Offer teaches the far surface exhibits reduced residual stress (Figures 6A and 6B).

With respect to Claim 20, the teachings of Offer are the same as relied upon in the rejection of Claim 13. Offer teaches the first metal has a near surface that experiences reduced residual stress (Figures 6A and 6B).

With respect to Claim 21, the teachings of Offer are the same as relied upon in the rejection of Claim 13. Offer teaches the first metal is adjacent to a near surface of the second metal (Figure 1C items 2 and 6).

With respect to Claim 22, the teachings of Offer are the same as relied upon in the rejection of Claim 13. Offer teaches the second metal is adjacent to a near surface of the first metal (Figure 1C items 2 and 6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Offer (5,688,419) as applied to claim 1 above, and further in view of Thomas, Jr. et al. (3,696,228).

With respect to Claim 2, Offer teaches the second metal is a component of a nuclear reactor (Column 1, Line 17). Thomas, Jr. et al. teaches cladding a nuclear pressure vessel (Column 6,

Lines 60-68 and Column 7, Lines 1-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the welding technique as taught by Offer to utilize cladding the vessel in order to provide an effective corrosion resistant lining (see Thomas, Jr. et al. Abstract).

With respect to Claim 3, the teachings of Offer and Thomas Jr. et al. are the same as relied upon in the rejection of Claim 2. Offer teaches welding with a weld torch (Abstract).

With respect to Claim 4, the teachings of Offer and Thomas Jr. et al. are the same as relied upon in the rejection of Claim 3. Offer teaches the welding torch speed travels at a speed in excess of 10 inches per minute (Abstract).

With respect to Claim 5, the teachings of Offer and Thomas Jr. et al. are the same as relied upon in the rejection of Claim 3. Offer teaches the welding torch speed travels at a speed in excess of 10 inches per minute (Column 10, Lines 49-50).

Claims 6, 7, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Offer (5,688,419) as applied to claim 1 above. With respect to Claim 6, Offer teaches the requirement of a low heat input (Column 2, Lines 51-55) and a high travel speed (Column 14, Lines 1-3). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a heat input of 1.5 kJoules per cm in order to minimize the heat input into the system (see Offer Column 2, Lines 51-55).

With respect to Claim 7, the teachings of Offer is the same as relied upon in the rejection of Claim 6. Offer teaches the requirement of a low heat input (Column 2, Lines 51-55) and a high travel speed (Column 14, Lines 1-3). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a heat input of 0.5 to 1 kJoules per cm in order to minimize the heat input into the system (see Offer Column 2, Lines 51-55).

With respect to Claim 15, the teachings of Offer is the same as relied upon in the rejection of Claim 6. Offer teaches welding steel (abstract), which results in formation of Delta Ferrite.

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Offer (5,688,419) as applied to claim 1 above, and further in view of Offer (5,714,735). With respect to Claim 8, Offer '735 teaches the use of a filler metal (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the welding technique as taught by Offer '419 and Offer '735 to utilize a filler metal in order to increase the deposition rate of the filler material (see Offer '735 Column 1, Lines 35-47).

With respect to Claim 9, the teachings of Offer are the same as relied upon in the rejection of Claim 8. Offer '735 teaches the use of a noble metal (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the welding

technique as taught by Offer '419 and Offer '735 to utilize a filler metal in order to increase the deposition rate of the filler material (see Offer '735 Column 1, Lines 35-47).

With respect to Claim 10, the teachings of Offer are the same as relied upon in the rejection of Claim 9. Offer '735 teaches the use of palladium (Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the welding technique as taught by Offer '419 and Offer '735 to utilize a filler metal in order to increase the deposition rate of the filler material (see Offer '735 Column 1, Lines 35-47).

With respect to Claim 11, the teachings of Offer are the same as relied upon in the rejection of Claim 9. Offer '735 teaches the use of a noble filler metal and to increase its speed (see Offer '735 Column 1, Lines 35-47). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the welding technique as taught by Offer '419 and Offer '735 to utilize a filler metal of 1% or less in order to increase the deposition rate of the filler material (see Offer '735 Column 1, Lines 35-47).


With respect to Claim 12, the teachings of Offer are the same as relied upon in the rejection of Claim 9. Offer '735 teaches the use of a noble filler metal and to increase its speed (see Offer '735 Column 1, Lines 35-47). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the welding technique as taught by Offer 419 to utilize a filler metal in the amount of 0.25 to 0.75 in order to increase the deposition rate of the filler material (see Offer '735 Column 1, Lines 35-47).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 703-308-0667. The examiner can normally be reached on M-Th 7AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

jj 
January 22, 2003


TOM DUNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700